

RECOVIB.Tiny

DOCUMENTATION

RECOVIB
www.recovib.com



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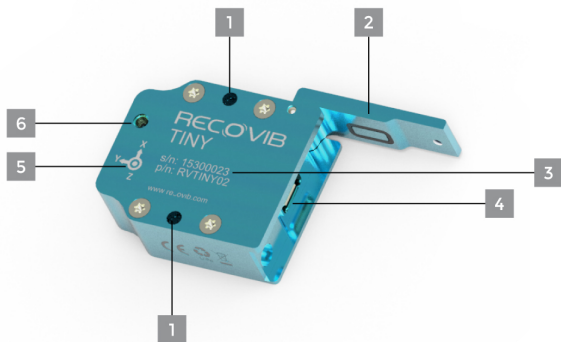
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CASE CONTENT

photo valisette remplie, avec numéros

1. Up to 5 RECOVIB.Tiny sensors
2. 2 pot magnets
3. Nuts and washers, screwdriver, wrench
4. USB cable to connect sensor to PC
5. Charger
6. USB key containing software installer

SENSOR DESCRIPTION



1. Holes for pot magnets
2. Protective flap
3. Serial number
4. Micro USB connector
5. Reference axes of measures
6. Status LED


MOUNTING MAGNETS ON A SENSOR

If the vibrating device is not magnetic, contact the Micro-mega SA customer service for an alternative solution.

img vue éclatée du capteur
avec l'aimant, la tige, les rondelles et écrou

- Push the pot magnets through the casing holes.
- Place the washers in the correct order. The order is important to ensure the rigidity of the assembly.
- Tighten the nuts using the wrench.


INSTALLING THE SOFTWARE

- Plug the USB key into your PC.
- Read the USB key, and double-click the exe file.
- The RECOVIB.Tiny setup wizard will guide you through the installation. Click **Next**.
- To enable the **I agree...** checkbox, scroll the license agreement until the end. Click the checkbox, and click **Next**.
- Click the **Browse...** button to change the default location of the software. Click **Next**.
- Click **Install**. If asked, confirm that you allow the Micromega SA software to be installed on your PC.
- When the installation is finished, click **Close**.
- Finally, remove the USB key and put it back in the case.
- To launch the software, double-click the  icon on your desktop.
- If your PC is connected to Internet, the RECOVIB.Tiny software checks automatically if updates are available.



MANAGING SENSORS

- Do not connect a sensor to your PC while managing sensors.


ACCESSING THE SENSORS MANAGEMENT WINDOW

- Launch the RECOVIB.Tiny software. Click **Next**.
- In the sensors management area, click the  button. The sensors management window opens.

ADDING A SENSOR

- From the sensors management window, click the  button.
- Type the serial number of the sensor that you want to add. The serial number is written on the sensor.
- Click the  button to validate. The sensor is added to the list.

REMOVING A SENSOR

- From the sensors management window, select a sensor in the list.
- Click the  button, and confirm the deletion.

PREPARING A SENSOR FOR MEASURE


- Do not connect a sensor to your PC until the software requests it.

CONFIGURING SENSORS FOR MEASUREMENT

- Launch the RECOVIB.Tiny software. Click **Next**.
- Choose **Operation 1 [...]**, and click **Next**.
- Either import an existing configuration file, or set the configuration for the first time.
- Click **Next**.

IMPORTING A CONFIGURATION


A configuration file is an XML file containing information about a selection of sensors: serial number and associated comment.

- To import a configuration, click the  button.
- Browse to a configuration file, and open it. A selection of sensors is displayed. You can still modify the selection.
- Click **Next**. Selected sensors, with associated comments, are displayed in the list. You can still modify comments, and save the configuration.

SETTING A CONFIGURATION FOR THE FIRST TIME

- Select one or several sensors in the list. To add a sensor to that list, refer to "Managing Sensors" on page 8.
- Click **Next**.
- If needed, add a comment to each sensor (typically what it will measure, its location...).
- Save the current configuration if you want to reuse it.

SAVING A CONFIGURATION

- To save the current configuration to a file, click the  button.
- Browse to a location, enter a name for the file, and save it.

SETTING MEASUREMENT TIME

- The same time will be programmed on each sensor of the configuration.
- The date and time are synchronized with the PC clock.

WITH START AND STOP DATE AND TIME

- Click the first radio button.

- Select a date and time for the measurement start, and for the measurement stop. Obviously, they must be after the current date and time.
- Click **Next**.

WITH START DELAY AND DURATION

- Click the second radio button.
- Select a delay from the current time before the measurement start.
- Select the duration of the measurement.
- Click **Next**.

UPLOADING MEASUREMENT SETTINGS ON SENSORS

CONNECTING A SENSOR TO YOUR PC

- Do not connect several sensors to your PC at the same time. The software asks for sensors one after each other.
- Open the protective flap of the sensor, using the screwdriver.
- Connect the right sensor to your PC, using the USB cable.

When the RECOVIB.Tiny software has recognized the sensor, it displays its status (including the battery state).

SETTING ACCELERATION RANGE

- Select the appropriate range of accelerations for this sensor.

UPLOADING DATA

- Click the **Setup Device** button.
- The current configuration replaces any other configuration on the sensor. Confirm the sensor setup, and, when it is done, click **OK**. When the sensor is ready for measurement, the LED flashes red.
- If your configuration includes several sensors, connect and disconnect them one after each other.

DISCONNECTING A SENSOR

- Disconnect the sensor from the PC. Unplug the USB cable.
- Close the protective flap of the sensor, using the screwdriver.

ENDING CONFIGURATION

- When the measurement setup is complete, click **Next**. A summary of your configuration is displayed. Click **Finish**.
- To restart the RECOVIB.Tiny software, click **No**.
- To quit the software, click **Yes**.

RECORDING VIBRATIONS

- Make sure the sensor is ready for measurement. When the sensor is ready for measurement, the LED flashes red. Refer to "Preparing a Sensor for Measure" on page 9.
- If magnets have not been mounted yet, refer to "Mounting Magnets on a Sensor" on page 6.
- Snap the sensor on the vibrating device.
- The vibrations are decomposed into accelerations along 3 reference axes, oriented as indicated on the sensor casing.
- 1024 times per second, the sensor records 3 accelerations: 1 on the X axis, 1 on the Y axis, and 1 on the Z axis.
- A green LED is lit continuously during the measurement.
- When the measurement is finished, a red LED lights for 5 seconds, then turns off.

RETRIEVING MEASUREMENTS

- Do not connect a sensor to your PC until the software requests it.

CONFIGURING SENSORS FOR DOWNLOAD

- Launch the RECOVIB.Tiny software. Click **Next**.
- Choose **Operation 2 [...]**, and click **Next**.
- Either import an existing configuration file, or set the configuration for the first time.
- Click **Next**.

CHOOSING A LOCATION FOR DOWNLOADED DATA

- Click the **...** button to change the default location of the downloaded data. Click **Next**.

DOWNLOADING MEASUREMENT FROM SENSORS

CONNECTING A SENSOR TO YOUR PC

- Do not connect several sensors to your PC at the same time. The software asks for sensors one after each other.
- Open the protective flap of the sensor, using the screwdriver.

- Connect the right sensor to your PC, using the USB cable.

When the RECOVIB.Tiny software has recognized the sensor, it downloads all data.

- If your configuration includes several sensors, connect and disconnect them one after each other.

DISCONNECTING A SENSOR

- Disconnect the sensor from the PC. Unplug the USB cable.
- Close the protective flap of the sensor, using the screwdriver.

EXPORTING MEASURES

- Select an output format, and, if applicable, a decimal symbol.
- Click the **Export to [...]** button.
- When the export is complete, click **OK**. Then, click **Finish**.
- To restart the RECOVIB.Tiny software, click **No**.
- To quit the software, click **Yes**.

MAINTAINING YOUR SENSORS

CALIBRATION

- To ensure optimal measurements, RECOVIB.Tiny needs to be regularly calibrated, at least every 2 years.
- The software warns you when a sensor needs to be calibrated.
- Calibration is performed by Micromega SA exclusively. Contact Micromega SA customer service for further information.

CHARGE

- To charge your sensor, connect it to the mains using the provided charger. Or charge it through your PC using the USB cable.
- The power connector is a standard micro USB connector.
- A fully charged sensor has an autonomy of about 6 hours.

CLEANING

- After use, clean the sensor with a dry cloth to keep it in good condition.
- If the device is dirty, clean the casing with a slightly damp cloth or a very mild cleaning product.
- Avoid wetting the connectors and cables.
- Never soak RECOVIB.Tiny in water.

TECHNICAL SPECIFICATION

MEASUREMENT CHARACTERISTICS

Measuring ranges	$\pm 2\text{ g}$ or $\pm 6\text{ g}$
Lower frequency limit	0 Hz (DC)
Passband frequencies (per channel)	250 Hz
Sampling frequency (per channel)	4096 Hz
Storage rates (per channel)	1024 samples/s
Non-linearity	$\pm 1\%$ F.S.
Residual noise	$60\text{ }\mu\text{g}/\sqrt{\text{Hz}}$
Transverse sensitivity	$< 5\%$

AUTONOMY

Battery	$> 6\text{ h}$
Storage	2 GB

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-10 to 50 °C
Non-operating temperature range	-40 to 85 °C
Temperature coefficient of sensitivity	$\pm 0.02\%$ /°C

Temperature drift of zero point	± 0.5 mg/°C
Protection grade	IP 65

MECHANICAL DATA

Dimensions	39.6 x 33.4 x 14 mm
Weight	33.5 g
Casing material	Aluminum

SOFTWARE

Output formats	Binary, txt, csv, NI LabVIEW, MATLAB (Level 5 MAT-file)
OS requirements	

RECYCLING

Standards applicable to waste electrical and electronic devices state that they must be recycled.

If you are no longer using this material or if it cannot be repaired, do not throw it away in the usual household rubbish. Return it to the vendor or contact Micromega SA customer service for further information.



CONFORMITY

This product has been subjected to tests in conformity with European directives.

Outside the EU, consult the competent local authorities before using the device.





Vibration Control Technology

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